REMARKS

Claims 1-58 were pending and stand rejected. Claims 1, 18, 35 and 52 are amended.

On May 4, 2009, 2009, Applicants' representatives Fengling Li, and Robert R. Sachs conducted a telephone interview with the Examiner. The rejection of claim 1 under 35 U.S.C. § 103(a) over Naito and Wu, and the rejection under 35 U.S.C. § 101 were discussed. The Examiner and Applicants agreed that the cited references (Naito and Wu) do not disclose the features recited in claim 1. The Examiner and the Applicants further agreed that amendment to claim 1 will overcome the 101 rejection. The arguments set forth in the interview are summarized below.

Claims 1-17 were rejected under 35 USC §101 as not failing within one of the four statutory categories of invention. Independent claim 1 has been amended merely to more clearly recite statutory subject matter. First, claim 1 as amended limits the method to being performed by a computer, thereby specifically tying the method to another statutory class. Second, the method transforms an uncompressed image into an encoded (i.e. compressed) image. The claimed "encoding" is a transformation since it changes the physical state of the image, including transforming the amount, and types of data used to represent the image. Third, the claim recites that the encoded image data is output, which is thus producing a real world outcome of the

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process. Thus, claim 1 is directed to statutory subject matter, and the rejection should be withdrawn. Dependent claims 2-17 are also directed to statutory subject matter.

The Examiner rejected claims 1-58 under 35 USC §103(a) as unpatentable over Naito et al. (U.S. Patent No. 6,690,732) in view of Wu et al. (U.S. Patent No. 6,804,301). This rejection is respectfully traversed.

Claim 1 recites a method of encoding a video image using scene change detection during the encoding process, without first decoding the compressed image in order to identify the scene change, and without changing the frame type. The cited references, considered alone or in combination does not disclose or teach the claimed invention.

Naito does not disclose or teach the claimed invention. For example, Naito does not disclose or teach "encoding the image without changing the frame type of the image in response to the determination of a scene change and the frame type of the image." The Examiner cited column 3, lines 50-59 of Naito as allegedly disclosing the claimed feature. However, this portion of Naito merely describes a benefit of the scene change detection in terms of bit allocation to the frame just after the point of scene change in that the frame is slightly higher in the picture quality than the previous frames. Thus, Naito does not disclose or teach the claimed feature.

The Examiner admitted that Naito does not disclose or teach determining whether an image represents a scene change based on a distribution of the macroblock types and the frame type, and stated that these features are disclosed in Wu.

Wu does not remedy the deficiencies associated with Naito. Wu discloses a method for encoding digital images within frames for digital television transmission (Abstract). The

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Examiner cited column 6, lines 23-39 of Wu as allegedly disclosing "determining whether the image represents a scene change based on a distribution of macroblock types of the macroblocks and the frame type of the image." This is incorrect. This portion of Wu merely discloses that a scene change is detected after the complexity measure is calculated (6:23-24). In other words, Wu at most detects a scene change based on <u>a complexity measure</u>, which is not equivalent to a scene change determination based on <u>a distribution of the macroblock types and the frame type</u> as claimed.

The Examiner further asserted that in Wu, "block type is the complexity of the blocks, and the frame type is determining the I and P frames" (Detailed Action, p. 3). During the interview, the Examiner agreed that Wu's complexity measure is based on total number of I or P slice bits in a given frame, and that this measure is therefore not based on a distribution of the types of the macroblocks, because the total number of such bits is entirely independent of the distribution of block types. Instead, Wu discloses a scene detection based upon a complexity measure and such detection is only applied to P-frames (3:23-57). Thus, Wu does not disclose or teach the claimed features.

The combination of Naito and Wu does not disclose or teach the claimed features. As described above, Naito does not disclose a scene change detector based upon a distribution of macroblock types of the macroblocks and the frame type as claimed. Wu discloses <u>a scene detection based upon a complexity measure only for P-frames</u> (3:23-57). Further, Wu teaches that in response to a scene change being detected on a P-frame, "<u>the P-frame is converted into an I-frame</u>" (6: 47-56). The Examiner agreed that Wu teaches changing the frame type when

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encoding the image. Thus, the combination of Naito and Wu <u>teaches away</u> from "encoding the image without changing the frame type of the image", as claimed.

Therefore, claim 1 is patentable over the cited references.

Claims 18, 35 and 52 recite similar language as to claim 1. For at least the reasons above, the Applicants submit that claims 18, 35 and 52 are patentable over the cited references. Claims 2-17, 19-34, 36-51 and 53-58 either directly or indirectly depend from their base claims. These dependent claims also recite additional features not disclosed by the cited references. Thus, the Applicants submit claims 2-17, 19-34, 36-51 and 53-58 are patentably distinguishable over the cited references.

In sum, the Applicants respectfully submit that pending claims are patentably distinguishable over the cited references. Therefore, the Applicants request reconsideration of the basis for the rejections to these claims and request allowance of them. If the Examiner is in need to further information, he is invited to contact the undersigned agent at the telephone number provided below.

Respectfully submitted,
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